UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/497,520	02/04/2000	Hyun-doo Shin	Q53233	7584

7590	02/25/2004		EXAMINER

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ART UNIT	PAPER NUMBER
2626	

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒   Responsive to communication(s) filed on <u>02 January 2004</u> .

2a) ☒   This action is **FINAL**.   2b) ☐   This action is non-final.

3) ☐   Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒   Claim(s) *1-22,24-27,29-36 and 38-50* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐   Claim(s) _____ is/are allowed.

6) ☒   Claim(s) *1,2,19,22,38,39,44,45 and 50* is/are rejected.

7) ☒   Claim(s) *3-18, 24-27, 29-36, 40-43 and 46-49* is/are objected to.

8) ☐   Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐   The specification is objected to by the Examiner.

10) ☐   The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐   The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐   The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐   Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☒   Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐   Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)   4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .   6) ☐ Other: .

1.   Claims 23, 28 and 37 are canceled.

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 19, 22, 38, 39, 44, 45 and 50 are rejected under 35 U.S.C. 102(b)

as being anticipated by Young.

With respect to claim 1, Young teaches a color image processing method

comprising the steps of:

sorting image pixels according to a color distance (d), according to col. 9, lines 30-35,

between image pixels P(n) and a central pixel C(r); grouping the sorted pixels into

groups in which a difference intragroup color distance is minimum (see col. 9, lines 44-

46) and a difference in intergroup color distance is maximum (see col. 9, lines 40-43);

and performing filtering by replacing a central pixel C(r) value with a predetermined pixel

value C(j) determined by pixel values of pixels in the groups, see col. 9, lines 46-57.

With respect to claim 2, Young teaches a circular window defined by (HSV)

coordinates, see figures 6a and 6b.

With respect to claim 19, Young teaches a color image priocessing method comprising the steps of:

receiving a color image frame (18) and segmenting the same into a plurality of color images (RGB values; sorting image pixels according to a color distance (d), according to col. 9, lines 30-35, between image pixels $P(n)$ and a central pixel $C(r)$; grouping the sorted pixels into groups in which a difference intragroup color distance is minimum (see col. 9, lines 44-46) and a difference in intergroup color difference is maximum (see col. 9, lines 40-43); and performing filtering by replacing a central pixel $C(r)$ value with a predetermined pixel value $C(j)$ determined by pixel values of pixels in the groups, see col. 9, lines 46-57.

With respect to claim 22, Young teaches a circular window defined by (HSV) coordinates, see figures 6a and 6b.

With respect to claim 38, Young teaches defining a circular window (see figures 6a and 6b) having a predetermined size with an input color; selecting pixels having a color vector $C(j)$ similar to that of a central pixel $C(r)$ within the window and defining the selected pixels as a group; and
performing filtering of blurring (using the Shadow Theorem, explained at col. 11, lines 11-19.

With respect to claim 39, Young teaches a computer readable medium (25) having program codes executable by a computer to perform a color image processing method, comprising the steps of: receiving a color image frame (18) and segmenting the same into a plurality of color images (RGB values; sorting image pixels according to a color distance (d), according to col. 9, lines 30-35, between image pixels P(n) and a central pixel C(r); grouping the sorted pixels into groups in which a difference intragroup color distance is minimum (see col. 9, lines 44-46) and a difference in intergroup color difference is maximum (see col. 9, lines 40-43); and performing filtering by replacing a central pixel C(r) value with a predetermined pixel value C(j) determined by pixel values of pixels in the groups, see col. 9, lines 46-57.

With respect to claim 44, Young teaches a color image frame, obtained from a frame grabber 18, and segmenting the images (rgb values).

With respect to claim 45, Young teaches a color image processing method, comprising: sorting means 14 and 15 as shown in figure 2, for setting a window of a predetermined size within an input color image and sorting image pixels in he window according to a color distance between the image pixels P(n) and a central pixel C(r); grouping means 15 for grouping the sorted pixels into groups in which a difference in an intragroup color distance is minimum and a difference in an intergroup color difference maximum; and filtering means via the ordered file (see col. 9, lines 46-57).

With respect to claim 50, Young teaches a segmenting means (frame grabber 18) for receiving a color image frame (see col. 5, lines 20-24) and segmenting the received data into a plurality of color images (see col. 5, lines 24-28).

3.

Claims Objected Containing Allowable Matter

Claims 3-18, 24-27, 29-37, 40-43 and 46-49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4.   Examiner's Remarks

In the second to last paragraph of page 17, applicant contends that the limitation of grouping sorted pixels into groups in which a difference in intragroup color distance is minimum and a difference in intergroup color distance is maximum is not shown by Young. The examiner respectfully disagrees. This limitation is substantially taught by col. 9, lines 44-46 regarding the sorting (ordering) of pixels having a minimum color distance where col. 9, lines 44-46 addresses sorting (ordering) the pixels having the maximum color distance. The term "ordered" used in Young and the term "grouped"

used in the present invention, describe the same function. Using the terms interchangeably, the pixels are grouped from the least to the greatest in color density. See lines 42 and 43 of col. 9. The examiner has reviewed the applicant's argument and found it unpersuasive for at least this reason.

Regarding claim 38, applicant argues that Young fails to teach defining a window having a predetermined size within an input color image. To the contrary, Young defines a circular color window illustrated in figures 6a and 6b, which has a circular radius of Y and a height of Z pertaining to the Munsell color space. See col. 9, lines 58-65. The examiner respectfully disagrees with the applicant's characterization of the window, disclosed by Young, that it lacks a window having a predetermined size within an input color image. All of theses limitations are clearly shown by figures 6a and 6b as well as col. 9, lines 58-65.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
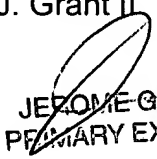
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5.   Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Jerome Grant II whose telephone number is 305-

4391. The examiner can normally be reached on Mon. from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kimberly Williams, can be reached on (703) 305-4863. The fax phone

number for the organization where this application or proceeding is assigned is 872-

9306.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is 305-3900.

J. Grant II

JEROME GRANT II
PRIMARY EXAMINER